

Janet Napolitano  
Governor

# ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Stephen A. Owens  
Director

September 9, 2004

Mr. Philip A. Gruenberg  
Executive Officer  
Regional Water Quality Control Board  
73-720 Fred Waring Drive, Ste. 100  
Palm Desert, CA 92260

Re: Orders R7-2004-0100; R7-2004-0103; R7-2004-0080

Dear Mr. Gruenberg:

On March 17, 2004, I wrote to EPA Region 9 Administrator Wayne Natri to express my great concern about the plume of hexavalent chromium underlying the PG&E Topock Natural Gas Compressor Station, and located in close proximity to the Colorado River. Since that time, staff from the Arizona Department of Environmental Quality (ADEQ) have participated in the Consultative Work Group meetings and discussions to provide immediate and long-term solutions to this problem. We have appreciated ADEQ's involvement in the Consultative Work Group effort, but I am very concerned with several issues at this site and with this project, including the California Department of Toxic Substances Control's (DTSC) issuance of the Notice of Exemption (NOE) to the California Environmental Quality Act for emergency actions under Interim Measure 3. I am also particularly troubled that the plume of hexavalent chromium may have already moved beneath the Colorado River and may now be contaminating Arizona's groundwater.

Because of our concerns, I am providing the comments below regarding the three pending orders before the Regional Board. I am also attaching a more detailed technical memorandum for your consideration.

## ADEQ's Primary Concerns

1. **Presence of Cr<sup>6</sup> in Arizona Wells.** Cr<sup>6</sup> has been repeatedly detected in water supply wells located in Arizona on the East side of the Colorado River. Chromium was reportedly not used at any of the El Paso Natural Gas (EPNG) facilities at Topock, Arizona. The water supply wells containing Cr<sup>6</sup> are reportedly screened across large intervals (for example well 531890 is 720 feet deep according to ADWR records and screened from 174 feet bgs to 703 feet bgs). Large screened intervals may have a diluting affect on samples collected from the wells.
2. **Delineation of the Plume.** The Cr<sup>6</sup> plume has not been delineated towards the east (and the Colorado River) and at depth in the aquifer and into the contact of the alluvial aquifer with the top of the Red Fanglomerate (at an approximate depth of 90 to 100 feet in areas) and in the Red Fanglomerate.

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3. **Failure to Involve ADEQ in Activities in Arizona.** Public outreach efforts have been conducted by PG&E and DTSC in Arizona including interviewing Arizona residents and presenting a site picture that may not include all data. These activities have been conducted without the knowledge and involvement of ADEQ. Sampling of Arizona wells has similarly been performed by PG&E without ADEQ's knowledge or involvement. The State of Arizona is outside the jurisdiction of DTSC and the CRWQCB, and we insist that ADEQ be informed and involved in all activities in Arizona.
4. **Discharge of Cr<sup>6</sup> into the Colorado River.** The orders proposed by the CRWQCB do not reflect the short-term nature of Interim Measure No.3 (only two years of projected extraction rates). If this measure is to be allowed at all, a two-year time limit (or less) should be added to the orders; or the orders should be temporary.
5. **The Cr<sup>6</sup> Plume May Have Reached Arizona.** Arizona groundwater quality data suggests that a hydraulic connection may exist between aquifers on the East and West side of the Colorado River and that the plume from the PG&E Topock site may have reached Arizona. This possibility extends well beyond the scope of work planned for the PG&E Background Study which assumes that Cr<sup>6</sup> is naturally occurring in the Arizona aquifer. We request that all parties ensure that PG&E efforts address this possibility.
6. **Lack of Contingency Plan for Upset Conditions.** No contingency plans are in place for Interim Measure No. 3 in the event of plant upset conditions in the treatment plant for treating extracted groundwater. All disposal options for Interim Measure No. 3 rely on treatment attaining the required effluent limitations. ADEQ is concerned that the lack of contingency plans could result in PG&E stopping the much-needed, accelerated pumping in the event of plant upset.
7. **Injection into the Aquifer.** Injection into the California Piute Hydrologic Unit should be closely monitored to ensure that it does not drive the Cr<sup>6</sup> plume further towards the Colorado River and Arizona or hinder the progress of planned increased extraction rates. Monitoring should address mounding (water elevation) and groundwater chemistry changes. The order (No. 0103) does not currently contain *Receiving Aquifer Monitoring* requirements nor effluent limits for constituents other than chromium and hexavalent chromium. The Receiving Aquifer monitoring constituent list should mirror the treated groundwater/effluent list in order No. 0100.
8. **Monitoring the Aquifer.** Monitoring of the *Receiving Aquifer* should evaluate whether or not reversal of gradient is being achieved for Interim Measure No.3. Performance should be measured in the aquifer and not solely rely on modeling projections to demonstrate success. A detailed plan is needed for assessing the performance standard of "reversal of gradient" and the plan should allow for new data which suggests that the plume may extend beneath the Colorado River or beyond. Additional extraction wells may be needed to maintain reversal of gradient and this possibility should be evaluated as initial field data is reviewed.
9. **Need for Increased Pumping.** Sufficient extraction well pumping rates should be maintained to ensure reversal of gradient and suitable treatment and disposal options should be developed for increased extraction rates, if needed. Pumping rates may need to be adjusted upwards to maintain gradients away from the river and the plan, and orders should allow for flexibility in pumping but also require comparable treatment or off-site disposal options to accommodate increased extraction rates beyond 132 gpm.

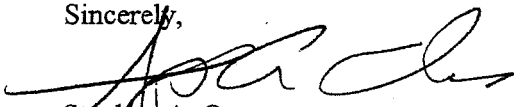
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10. **Discharge Effluent Limitations.** ADEQ remains concerned about the NPDES discharge to the Colorado River under Interim Measure No. 3. If the discharge is allowed to occur, effluent limitations should require that treated groundwater Cr<sup>6</sup> concentrations fall between non-detect (8 ppb) and a maximum conservative value of 11 ppb (the Aquatic and Wildlife Warm chronic or CA Toxics Rule continuous concentration standard for the Colorado River) rather than 16 ppb prior to discharge to the Colorado River.
11. **Selenium Limit.** The NPDES discharge limitations should include the constituent selenium which is believed to be problematic for the entire length of the Colorado River. Arizona's draft 2004 303(d) List includes the Colorado River from Hoover Dam to Lake Mohave as impaired for selenium. Limited data indicates the selenium exceedances extend to lower reaches of the River as well.
12. **Treatment Capacity.** The rate of 200 gpm appears in all three orders for disposal options. However, the treatment system proposed by PG&E reportedly will only have a 132 gpm capacity. The orders should limit PG&E to 132 gpm until such time as sufficient treatment capacity has been demonstrated for increased pumping rates that may vary up to 200 gpm. PG&E should be encouraged to increase treatment capacity or off-site disposal capacity to allow for additional extraction rates if needed to attain reversal of gradient for plume control.

In sum, the orders should reflect the strictly temporary nature of Interim Measure 3; any discharge allowed under a requirement for more specific monitoring in the aquifer if the injection method is selected; and ensure that Arizona's water quality standards are respected if any discharge is made to the Colorado River.

Thank you for your consideration of our concerns. We look forward to continuing to work to resolve this difficult problem.

Sincerely,



Stephen A. Owens  
Director

cc: Attached

September 9, 2004

Letter from Director Steve Owens to Phil Gruenberg

Regional Water Quality Control Board, Colorado River Region

ADEQ Technical Comments on CRWQCB Orders and PG&E Topock Project

CC List

Norman Shopay, Project Manager, Department of Toxic Substances Control (DTSC)

Karen Baker, Chief, Geology Permitting & Corrective Action Branch, DTSC

Mona Arteaga, Public Participation Supervisor, DTSC

Richard Sherwood, Assistant Chief Counsel, DTSC

Robert Perdue, CHG, Asst Executive Officer, California Regional Water Quality Control Board

Jose Cortez, Water Resource Control Engineer, California Regional Water Quality Control Board

M. Catherine George, Senior Staff Counsel Colorado River Basin, State Water Resources Board

Yvonne Meeks, Portfolio Manager – Site Remediation, Pacific Gas and Electric Company

Barbara Benson, Attorney, Pacific Gas & Electric

Terri Herson, Asst Project Manager, Corrective Measures Study – Topock Project, CH2M Hill

Jeff Smith, Regional Hazmat Coordinator, U.S. Dept. of the Interior (DOI), Bureau of Reclamation

Denise Baker, Environmental Contaminants Supv. U.S. Fish & Wildlife Service, U.S. DOI

John Earle, Refuge Manager, Havasu National Wildlife Refuge, USFWS, DOI

Casey Padgett, Attorney Advisor, Office of the Solicitor, USDOJ

Janet Wong, Attorney, Office of the Field Solicitor, USDOJ

Peter Martin, Program Chief, U.S. Geological Survey

Lisa Anderson, Ph.D, Program Manager III, Office of General Counsel, Metropolitan Water  
District of Southern California

John Clairday, Esq, Deputy General Counsel, Metropolitan Water  
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Jody Sparks, President, Toxic Assessment Group

Carlos Duarte, Environmental Engineer, International Boundary and Water Commission

John Krause, Regional Environmental Scientist, U.S. Bureau of Indian Affairs

Jing-Chang (Jay) Chen, Ph.D., P.E. (P), Colorado River Board of California

Patty Meade, Director, Mohave County Dept. of Public Health

Kristie Kilgore, Quality Assurance Advisor, Arizona Department of Environmental Quality

Kelli Stamper, Indian Health Service, Office of Environmental Health & Engineering

L. Elena Etcitty, Director, Environmental Protection Office, Colorado River Indian Tribes

Wayne Nastri, Regional Administrator, USEPA Region 9

Celeste Cantu, Executive Officer, California State Water Resources Control Board

Arthur Baggett, Jr., Chair, California Water Resources Control Board

Edwin Lowry, Director, Cal EPA, DTSC

Herb Guenther, Director, Arizona Dept. of Water Resources

Terry Tamminen, Secretary, California Environmental Protection Agency

The Honorable Jon Kyl, Senator, United States Senate

The Honorable John McCain, Senator, United States Senate

The Honorable Trent Franks, United States House of Representatives

The Honorable Raul M. Grijalva, United States House of Representatives

The Honorable Daniel Eddy, Jr., Chairman, Colorado Indian Tribes

The Honorable Sherry Cordova, Chairperson, Cocopah Tribe

The Honorable Nora McDowell, Chairperson, Fort Mohave Indian Tribe

The Honorable Mike Jackson, President, Fort Yuma-Quechan Tribe

The Honorable Linda Binder, Arizona State Senate

The Honorable Robert Cannell, Arizona State Senate

The Honorable Amanda Aguirre, Arizona House of Representatives

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Letter from Director Steve Owens to Phil Gruenberg

Regional Water Quality Control Board, Colorado River Region

ADEQ Technical Comments on CRWQCB Orders and PG&E Topock Project

CC List Continued

The Honorable James R. Carruthers, Arizona House of Representatives

Clifford Edey, Chairman, La Paz County Board of Supervisors

Jay Howe, Supervisor, La Paz County Board of Supervisors

Gene Fisher, Supervisor, La Paz County Board of Supervisors

Pete Byers, Chairman, Mohave County Board of Supervisors

Tom Sockwell, Vice-Chairman, Mohave County Board of Supervisors

Buster D. Johnson, Supervisor, Mohave County Board of Supervisors

Lucy Shipp, Chairperson, Yuma County Board of Supervisors

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Casey Prochaska, Supervisor, Yuma County Board of Supervisors

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Diane Vick, Mayor, City of Bullhead City

Bob Whelan, Mayor, City of Lake Havasu City

D.L. Wilson, Mayor, Town of Parker

Lawrence K. Nelson, Mayor, City of Yuma

Joan Card, Arizona Department of Environmental Quality

Cortland Coleman, Communications Director, Arizona Dept. of Environmental Quality